



**ENVIRONMENTAL PROTECTION AGENCY**

**40 CFR Parts 52 and 81**

**[EPA-R05-OAR-2021-0949; FRL-9532-02-R5]**

**Air Plan Approval; Ohio; Redesignation of the Ohio portion of  
the Cincinnati, Ohio-Kentucky Area to Attainment of the  
2015 Ozone Standard**

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Final rule.

**SUMMARY:** The Environmental Protection Agency (EPA) finds that the Cincinnati, Ohio-Kentucky area (Area) is attaining the 2015 ozone National Ambient Air Quality Standard (NAAQS or standard) and is acting in accordance with a request from the Ohio Environmental Protection Agency (OEPA) to redesignate the Ohio portion of the Area to attainment for the 2015 ozone NAAQS because the request meets the statutory requirements for redesignation under the Clean Air Act (CAA). The Area includes Butler, Clermont, Hamilton, and Warren Counties in Ohio and parts of Boone, Campbell, and Kenton Counties in Kentucky. OEPA submitted the request for redesignation for the Ohio portion of the area (Butler, Clermont, Hamilton, and Warren Counties) on December 21, 2021. EPA is also approving, as a revision to the Ohio State Implementation Plan (SIP), the state's plan for maintaining the 2015 ozone standard through 2035 in the Area. Finally, EPA is approving the state's 2026 and 2035 volatile organic compound (VOC) and oxides of nitrogen (NO<sub>x</sub>) motor vehicle

emission budgets for the Ohio portion of the Area for transportation conformity purposes. EPA received comments on its February 11, 2022, proposed rule. After considering comments received, EPA is finalizing this action as proposed.

**DATES:** This final rule is effective on **[INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

**ADDRESSES:** EPA has established a docket for this action under Docket ID No. EPA-R05-OAR-2021-0949. All documents in the docket are listed on the *www.regulations.gov* web site. Although listed in the index, some information is not publicly available, i.e., Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available either through *www.regulations.gov* or at the Environmental Protection Agency, Region 5, Air and Radiation Division, 77 West Jackson Boulevard, Chicago, Illinois 60604. This facility is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding Federal holidays and facility closures due to COVID-19. We recommend that you telephone Olivia Davidson, Environmental Scientist, at (312) 886-0266 before visiting the Region 5 office.

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**SUPPLEMENTARY INFORMATION:** Throughout this document whenever "we," "us," or "our" is used, we mean EPA.

## **I. Background Information.**

This rule takes final action on the December 21, 2021, submission from OEPA requesting redesignation of the Ohio portion of the Cincinnati area to attainment for the 2015 ozone standard. The background for this action is discussed in detail in EPA's Notice of Proposed Rulemaking (Proposal), dated February 11, 2022 (87 FR 7978). In the Proposal, we noted that, under EPA regulations at 40 CFR part 50, the 2015 ozone NAAQS is attained in an area when the 3-year average of the annual fourth highest daily maximum 8-hour average ozone concentration is equal to or less than 0.070 parts per million, when truncated after the third decimal place, at all of the ozone monitoring sites in the area. (See 40 CFR 50.19 and appendix U of part 50.) Under the CAA, EPA may redesignate nonattainment areas to attainment if sufficient complete, quality-assured data are available to determine that the area has attained the standard and if it meets the other CAA redesignation requirements in section 107(d)(3)(E). The Proposal provides a detailed discussion of how Ohio has met these CAA requirements.

As discussed in the Proposal, quality-assured and certified monitoring data for 2019-2021 show that the Area has attained the 2015 ozone standard. In the maintenance plan submitted for

the Area, Ohio has demonstrated that the ozone standard will be maintained in the Area through 2035. Finally, Ohio has adopted 2026 and 2035 VOC and NO<sub>x</sub> motor vehicle emission budgets for the Area that are supported by Ohio's maintenance demonstration, which EPA is also approving in this action.

## **II. Public Comments.**

EPA provided a 30-day review and comment period for this action in the Proposal. The comment period ended on March 14, 2022. EPA received adverse comments, which are summarized and addressed below.

*Comment:* The commenter contends that EPA has not adequately demonstrated that the observed decrease in emissions is attributable to enforceable emission reductions. The commenter argues that some of the emission reduction measures that EPA relies on were in place well before 2019, i.e., that the measures themselves were insufficient to get the area to attainment because even after implementation of those measures in 2014 and 2017, the area continued to violate the NAAQS, and did not come into attainment until the 2019-2021 time period. The commenter cites the Cross State Air Pollution Rule (CSAPR) Update, Tier 3 Emission Standards, Category 3 Marine Diesel Engine Standards, and, more generally, several mobile source control measures that were "fully implemented" prior to 2014.

*Response:* EPA disagrees with the commenter's contention that EPA has not adequately demonstrated that the observed decrease in emissions is attributable to permanent and

enforceable reductions in emissions, per CAA section 107(d) (3) (E) (iii).<sup>1</sup> As stated in EPA's long-standing guidance on redesignations (see "Procedures for Processing Requests to Redesignate Areas to Attainment," Memorandum from John Calcagni, Director, Air Quality Management Division, September 4, 1992), we interpret this provision to mean that "[a]ttainment resulting from temporary reductions in emission rates (e.g., reduced production or shutdown due to temporary adverse economic conditions) or unusually favorable meteorology would not qualify as an air quality improvement due to permanent and enforceable emission reductions." Calcagni Memo at 4. EPA's guidance instructs that the showing under CAA section 107(d) (3) (E) (iii) "should estimate the percent reduction . . . achieved from Federal measures . . . as well as control measures that have been adopted and implemented by the State," and that overall, we must be able to "reasonably attribute the improvement in air quality to emission reductions which are permanent and enforceable." *Id.* EPA's correlation of improvements in air quality with an identification of permanent and enforceable state and Federal measures, along with the estimated reductions in precursor emissions that cause ozone pollution which are

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<sup>1</sup> The commenter states that it does not support EPA's proposal to redesignate the Area because OEPA has failed to demonstrate that CAA section 107(d) (3) (E) (iii) is met. However, as that statutory provision clearly states, the Administrator may not promulgate a redesignation of a nonattainment area unless "the Administrator determines that the improvement in air quality is due to permanent and enforceable reductions in emissions resulting from implementation of the applicable implementation plan and applicable Federal air pollutant control regulations and other permanent and enforceable reductions." On its face, the statute permits EPA to not only consider Ohio's submittal and demonstration, but also any other information EPA has regarding emission reductions in the area.

attributable to each measure over the relevant time period, has long been one methodology to demonstrate compliance with CAA section 107(d)(3)(E)(iii) and has been upheld in court. See *Sierra Club v. EPA*, 774 F.3d 383, 393-95 (7th Cir. 2014). As noted by the court in *Sierra Club*, "the CAA does not require EPA to prove causation to an absolute certainty. Rather in accord with its own internal guidance...EPA had to 'reasonably attribute' the drops in ozone to permanent and enforceable measures. Only if EPA's path cannot 'be reasonably discerned,' or if EPA relied on factors 'that Congress did not intend it to consider' or 'fail[ed] to consider an important aspect of the problem,' will we conclude that EPA acted arbitrarily or capriciously." *Id.* at 396.

The commenter is correct that some of the measures cited by EPA as contributing to the area's attainment, including the CSAPR Update, Tier 3 Emissions Standards, and Category 3 Marine Diesel Engine Standards, were in place prior the area's attainment. However, that does not mean that these control measures did not contribute to and were not reasonably attributable to the area's attainment. Control measures do not achieve all emission reductions in the first year that those measures are implemented. State and Federal emission reduction requirements continue to apply well past the initial implementation year and continue to achieve reductions that contribute to improving, and in this case, attaining, air quality. Some mobile source measures in particular will

continue to achieve cumulative emission reductions well past the initial implementation date because they achieve additional reductions with fleet turnover, i.e., as older on-road vehicles and non-road engines are replaced with newer ones that meet more stringent emission standards.

On September 7, 2016, EPA finalized an update to CSAPR requiring further reductions in NO<sub>x</sub> emissions from electric generating units (EGUs) beginning in May 2017. This final rule was projected to result in a 20% reduction in ozone season NO<sub>x</sub> emissions from EGUs in the eastern United States, a reduction of 80,000 tons in 2017 compared to 2015 levels, with continued EGU reductions each year. Emissions of NO<sub>x</sub> from EGUs in Ohio have reflected the continued emission reductions measures, as NO<sub>x</sub> emissions from EGUs in Ohio have been reduced by 29 percent statewide from 2016 through 2020. The continued application of these reductions in Ohio and upwind states was a key contributor to improved and attaining air quality in Cincinnati. In addition, EPA finalized the revised CSAPR Update on April 30, 2021 (86 FR 23054), and that rule required additional reductions of almost 10,000 tons of ozone season NO<sub>x</sub> in Ohio<sup>2</sup>, equivalent to a 50% reduction in EGU emissions, effective by the 2021 ozone season, i.e., one of the years in the design value period that shows attainment.

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<sup>2</sup> See OEPA's Redesignation Request and Maintenance Plan for the Ohio Portion of the Cincinnati, OH-KY 2015 Ozone Nonattainment Area, contained in docket EPA-OAR-R05-2021-0949 for the proposed rule that published February 11, 2022 (87 FR 7978) approving the redesignation request, page 43.

With respect to the mobile sources measures cited by the commenter, the commenter incorrectly states that the Tier 3 Emission Standards for Vehicles were fully implemented by 2017. In fact, the standards, which are expected to reduce NO<sub>x</sub> and VOC emissions by 80%, first took effect in 2017, and will continue to be phased in through 2025, after which additional reductions will continue to be achieved through fleet turnover. Similarly, the Category 3 Marine Diesel Engine Standards, which will reduce NO<sub>x</sub> emissions from new engines by 80%, began in 2016, and emission reductions will continue to occur at least through 2030 as older engines are replaced. These standards, in conjunction with rules reducing emissions from international and in-use vessels covered by MARPOL Annex VI, are estimated to result in NO<sub>x</sub> emissions reductions in the United States of 1.2 million tons per year (tpy). Reductions from both Tier 3 Emissions Standards and Category 3 Marine Diesel Engine Standards first took effect between the nonattainment period and the attainment period but have been achieving emission reductions every year since they were first implemented. EPA reasonably attributed the improved air quality in the Cincinnati area to these significant control measures, even if those measures did not immediately and independently cause the Area to attain the 2015 ozone NAAQS.

In addition, there are numerous other permanent and enforceable control measures that resulted in emission reductions that contributed to and are reasonably attributable for the Area's attainment. These include the New Source



Performance Standards (NSPS) for Residential Wood Heaters, of which Phase 2 began in 2020 and is projected by EPA to achieve 9,265 tons of VOC reductions annually when fully implemented; the Control of Hazardous Air Pollutants from Mobile Sources, which EPA estimates will reduce VOC emissions by over 1 million tons by 2030; and the Emissions Standards for Locomotives and Marine Compression-Ignition Engines, first promulgated in 2008, which EPA projected to reduce NO<sub>x</sub> emissions by 800,000 tons in 2030 which will continue to increase in later years as fleet turnover is completed.

None of these control programs which rely upon the replacement of older, more polluting technology with newer technology that meets more stringent emissions standards can be considered fully implemented upon initial adoption of the emission standard. The rules are considered fully implemented when the fleet has turned over and the new technology is in widespread use. Additional reductions from these programs continue to be generated throughout the implementation period as newer units replace older, more polluting units.

In reviewing Ohio's request, EPA applied the same methodology as it has for the many redesignated areas across the country over the last three decades. The Proposal discussed at length the various state and Federal promulgated measures and the estimated precursor emission reductions impacts attributable to each of those measures. The commenter does not dispute the permanence or enforceability of any of the measures listed by

EPA, nor does the commenter refute that the measures obtained the estimated reductions cited by EPA.

*Comment:* The commenter argues that EPA's determination that improved air quality during 2019-2021 was caused by permanent and enforceable emissions reductions program is unlawful, arbitrary, and capricious because EPA did not evaluate whether decreased economic activity from the COVID-19 pandemic caused improved air quality in the Area. The commenter contends that EPA should not rely solely on data from 2019, 2020 and 2021 when the Area came into attainment, due to COVID-19 effects on power plant emissions and automobile travel being the likely cause of the reductions rather than the cited enforceable reduction measures. Further, the commenter argues that the fact that EPA considered the impact of the pandemic in the Agency's proposal to redesignate Detroit, Michigan demonstrates that it was unreasonable for EPA to ignore the potential impact of the pandemic on Cincinnati's attainment.

*Response:* EPA does not agree that our determination that the Area's attainment is due to permanent and enforceable reductions is arbitrary and capricious. As previously discussed, we think that OEPA's submission and the rationale provided in EPA's Proposal establishes that the Area's attainment is due to the cited permanent and enforceable reductions. However, in response to this comment, EPA has performed an additional analysis focused on emission trends in

point sources and mobile sources in the Cincinnati area. That analysis, discussed in detail below, confirms our determination.

The commenter highlighted nationally decreased power plant emissions during the COVID-19 pandemic recession beginning in 2020. Therefore, EPA evaluated the point source emissions from Butler, Clermont, Hamilton, and Warren Counties in Ohio, the counties that make up the Ohio portion of the Area, based on data from EPA's Emissions Inventory System (EIS)<sup>3</sup> Gateway. The point source reductions achieved from the nonattainment year 2014 through the attainment year of 2019 show NO<sub>x</sub> and VOC emission reductions of 22 and 12 percent, respectively. Between 2019 (pre-pandemic) and 2020 (pandemic), NO<sub>x</sub> point source emissions were reduced by 0.4 percent. The vast majority of the emission reductions did not occur as a result of the pandemic.

EPA also analyzed the pandemic's impact on passenger and truck traffic in response to the commenter's assertion that automobile travel "plunged" in 2020 as a result of the pandemic. We found that, consistent with statewide trends, car traffic did decrease during the pandemic, but truck traffic increased. From mid-March 2019 to mid-March 2020, passenger and truck traffic in Hamilton County, the county which contains the Cincinnati city limits, were down 12 percent and 4 percent, respectively.<sup>4</sup> From mid-March 2019 to mid-March 2021, passenger traffic was down 19

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<sup>3</sup> See <https://www.epa.gov/air-emissions-inventories/emissions-inventory-system-eis-gateway>, last accessed 3/24/2022.

<sup>4</sup> The data was acquired by the Ohio Department of Transportation (ODOT) Statewide Traffic Analysis website, see <https://app.powerbigov.us/view?r=eyJrIjoizDRjZWRIbWktZGI2Ny00MzdjLTk1ZTYtNjAwNjUzZTh1YjBlIiwidCI6IjUwZjhmY2M0LTk0ZDgtNGYwNy04NGViLTM2ZWQ1N2M3YzhhMiJ9>.

percent, while truck traffic was up by 5 percent. Expanding this further, from mid-March 2019 to mid-March 2022, passenger traffic was down 12 percent while truck traffic was up by 9 percent. This pattern highlights several components of the United States' 'new normal' since the arrival of the COVID-19 pandemic. An Ohio statewide analysis by the Ohio-Kentucky-Indiana Regional Council of Governments (OKI) assesses the 'new normal' including monthly traffic impacts after the state of emergency was lifted on June 6, 2021, concluded overall traffic conditions in 2021 were decreased by a range of 3 to 7 percent, from June 2021 through January 2022, considering a monthly average. Separating between car and truck traffic, over the same time period, car traffic was decreased ranging from 5 to 9 percent, while truck traffic was increased from June 2021 through January 2022, ranging from 9 to 14 percent. In EPA's 2017 National Emissions Inventory (NEI), there were 31,762 tpy of NO<sub>x</sub> attributed to heavy duty vehicles (HDV) in Clermont, Butler, Hamilton, and Warren counties and 38,564 tpy of NO<sub>x</sub> attributed to light duty vehicles (LDV). Thus a 10% decrease in LDV Vehicle Miles Travelled (VMT) and a 10% increase in HDV VMT would be expected to lead to a small net decrease in onroad NO<sub>x</sub> emissions for these counties of less than 1,000 tpy and corresponding to a change of less than 1 percent. Thus, assuming that vehicle traffic scales linearly with NO<sub>x</sub> emissions, decreases in LDV VMT of between 3 and 19% paired with changes in truck VMT ranging from a 4% decrease to a 14%

increase could lead to net NO<sub>x</sub> change ranging from a decrease of approximately 8,600 tpy to an increase of approximately 3,300 tpy corresponding to a 12% decrease and a 5% increase respectively. As a result of these light duty and heavy duty VMT trends in opposite directions in the Cincinnati area it is not clear whether the COVID-19 lockdowns led to any significant net mobile NO<sub>x</sub> reductions in this nonattainment area.

A similar analysis by OKI of the Ohio counties in the Area (Clermont, Butler, Hamilton, and Warren) included average weekday daily traffic in the OKI region from 2019 to 2021, from 20 (directional) Ohio Department of Transportation (ODOT) permanent traffic count stations (Table 1). The results highlight 2021 car traffic levels higher than 2020, but remaining approximately 7 percent below 2019 traffic levels, while truck traffic increased by 13 percent from 2019 to 2021, which OKI characterizes as the 'new normal'. Truck traffic did not experience the marked decrease beginning in March of 2020 at the outbreak of COVID-19 to the degree car traffic experienced, and by late June of 2020, truck traffic counts equaled June 2019 truck traffic counts, and exceeded them throughout the rest of 2020. This distinction is pertinent because EPA has found that in the upper Midwest, the majority of ozone exceedances occur in late May through late July. In the Area in particular, through the 2011 - 2021 time period, as ozone design values have decreased, ozone exceedances are more likely to occur later in

the ozone season, and most likely in the months of June or July.<sup>5</sup> This time period would be within the same time frame that 2020 truck traffic returned to and exceeded 2019 truck traffic and hence, would have entered the 'new normal' conditions by the time the Area experiences its highest ozone values.

**Table 1. Average Weekday Daily Traffic Counts in Clermont, Butler, Hamilton, and Warren Counties, 2019-2021**

Vehicle Type	2019 Average Weekday Daily Traffic	2020 Average Weekday Daily Traffic	2021 Average Weekday Daily Traffic
Car	526,880	440,190	487,522
Truck	54,429	56,461	61,560

An analysis performed by OKI showed that VMT values are projected to increase throughout the maintenance period in the Area<sup>6</sup>. While EPA recognizes COVID-19 led to decreases in traffic and mobile source emissions, EPA would like to emphasize that the Area has continued to model decreases in on-road emissions despite modeled VMT increases, leaving the Area with an even larger margin when comparing on-road emissions in 2019 and emissions in 2026 and 2035 if the 'new normal' conditions prove to be temporary and traffic again rises beyond what is forecast in the maintenance plan.

Additionally, NEI trends data shows consistent decreases in both NO<sub>x</sub> and VOC emissions in Ohio from highway vehicles since 2011, and off-highway NO<sub>x</sub> and VOC emissions since 2002. With the many mobile source reduction measures in place in Ohio, EPA has no reason to believe that the reductions achieved are based on a

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<sup>5</sup> See <https://www.epa.gov/outdoor-air-quality-data/air-data-ozone-exceedances>, last accessed 3/29/2022.

<sup>6</sup> See OEPA's December 21, 2021, submittal contained in the docket for this action.

brief period of decreased VMT in 2020 due to the COVID-19 pandemic.

As suggested by the commenter, EPA also performed an analysis similar to the one performed by Michigan's Environment, Great Lakes and Energy agency in their submittal requesting redesignation of the Detroit area for the 2015 ozone standard<sup>7</sup>, to evaluate whether the improvement in air quality was caused by temporary adverse economic conditions, especially the economic conditions associated with the COVID-19 pandemic which first impacted Ohio in 2020. EPA first considered point source reduction trends, noting that between 2005 and 2017, OEPA provided that Ohio's NO<sub>x</sub> and VOC emissions decreased by 57 percent and 33 percent, respectively. Further, EPA compared the maximum 8-hour ozone concentrations against VMT and employment from 2014 through 2021. This highlighted that while employment levels were affected by COVID-19 and saw a decrease of employed individuals of almost 12,000 comparatively from the average 2019 levels to April of 2020, employment returned to 2019 levels by July 2020, according to Bureau of Labor and Statistics (BLS) Quarterly Census of Employment and Wages.<sup>8</sup> Employment levels continued to increase through 2021, and while the analysis showed a correlation between VMT and employment in the Area, no direct correlation between these economic indicators and the high ozone values was identified. The VMT and emissions values

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<sup>7</sup> The proposed approval to redesignate the Detroit, Michigan area to attainment of the 2015 Ozone Standards published on March 14, 2022 (87 FR 14210).

<sup>8</sup> See [www.bls.gov/cew/](http://www.bls.gov/cew/). Last accessed March 22, 2022.

generated by OKI using EPA's MOVES3 model indicate increasing VMT and decreasing emissions from the nonattainment year of 2014, through the attainment year of 2019, the interim year of 2026, and the end year of 2035. Further, under section 176(c) of the CAA, new transportation plans, programs, or projects that receive Federal funding or support, such as the construction of new highways, must "conform" to (i.e., be consistent with) the SIP. Conformity to the SIP means that transportation activities will not cause or contribute to any new air quality violations, increase the frequency or severity of any existing air quality problems, or delay timely attainment or any required interim emissions reductions or any other milestones.

Ohio's maintenance plan includes NO<sub>x</sub> and VOC motor vehicle emissions budgets (budgets) for the Area for 2026, the interim year, and 2035, the last year of the maintenance period (Table 2). The budgets are the portion of the total allowable emissions that are allocated to highway and transit vehicle use that, together with emissions from other sources in the Area, will provide for attainment or maintenance. These budgets represent the projected 2026 and 2035 on-road emissions plus a safety margin and are consistent with maintenance of the 2015 ozone NAAQS, which is described below. Detailed information on the transportation conformity program can be found in our Proposal.

**Table 2. 2026 and 2035 Budgets for the Ohio portion for the 2015 Ozone NAAQS Maintenance Area (tons per summer day, TPSD)**

Pollutant	2026 Budget	2035 Budget
NO <sub>x</sub>	14.15	10.58



VOC	25.30	18.98
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A "safety margin" is the difference between the attainment level of emissions (from all sources) and the projected level of emissions (from all sources) in the maintenance plan.

Further, the transportation conformity regulations allow states to allocate all or a portion of a documented safety margin to the motor vehicle emissions budgets for an area (40 CFR 93.124(a)). Ohio is allocating a portion of that safety margin to the mobile source sector. Specifically, in 2026, Ohio is allocating 1.85 TPSD and 3.30 TPSD of the VOC and NO<sub>x</sub> safety margins, respectively. In 2035, Ohio is allocating 1.38 TPSD and 2.48 TPSD of the VOC and NO<sub>x</sub> safety margins, respectively. Since only a part of the safety margin is being used, maintenance requirements are still easily met. Once allocated to on-road mobile sources, these safety margins will not be available for use by other sources.

EPA recognizes the difficulties in assessing the impacts of the COVID-19 pandemic on ozone precursor emissions and ozone design values and the economic disparities from the COVID-19 pandemic, but we do not agree that the Area's attainment is due to a temporary economic downturn associated with the COVID-19 pandemic. To the contrary, our analysis of the available data regarding point source emissions in the Cincinnati area and trends in vehicular traffic do not indicate that the Area's attainment was driven by temporary conditions. The effect of the pandemic on point source emissions in the Area was

insignificant in comparison to the effect of enforceable control measures, and the decrease in passenger vehicle VMT during the pandemic is not only largely offset by an increase in truck traffic but likely does not have a strong correlation with maximum ozone design values. OKI's mobile source modeling performed for the Area indicates that vehicular emission control measures will continue to drive emissions down even as VMT is projected to increase.

*Comment:* The commenter asserts that ozone concentrations from the design value period 2017-2019 (i.e., before the COVID-19 pandemic) undermines EPA's finding that the reduced ambient ozone concentrations observed in 2019-2021 are in fact attributable to permanent and enforceable regulations that took effect between 2004 and 2017. The commenter points out that during the 2017-2019 time period, several monitors in the Area recorded annual 4th high daily maximum 8-hour ozone concentrations that exceeded the level of the NAAQS. The commenter contends that EPA's failure to consider this earlier period (i.e. 2017-2019) as a relevant set of data for assessing the relative impact of enforceable emission reductions and the impact of the COVID-19 pandemic on reduced ozone levels in 2020-2021 was arbitrary and capricious and calls into question the reasonableness of EPA's proposed redesignation to attainment. The commenter also notes that EPA looked at precursor emissions from 2014 and 2019 but only analyzed ozone concentrations during the 2019-2021 period.

*Response:* EPA disagrees with the commenter's suggestion that the fact that the Cincinnati area was not attaining the 2015 ozone NAAQS in 2017-2019 (i.e., before the COVID-19 pandemic) undermines our conclusion that the Area has attained due to permanent and enforceable measures, as opposed to decreases in emissions associated with the pandemic. As discussed in the previous comment responses, many of the permanent and enforceable measures applicable to the sources in the Area or to sources upwind of the Area impose continued, and in some cases additional, emission reductions with each year of implementation (e.g., phased-in mobile source standards in addition to fleet turnover). Control measures do not obtain all emission reductions in the first year of their implementation, and not all impacts from a control measure are necessarily reflected in ozone concentrations in that year. Ozone formation and measured concentrations are dependent on a host of factors, including emissions and meteorology, and the continued application of many control measures across many source categories over a period of time has a significant impact on decreasing ozone concentration trends.

We therefore do not think that violating data from 2017-2019 necessarily means that attaining data from 2019-2021 was caused by a reduction in emissions due to the pandemic. However, in response to the commenter's suggestion, we analyzed emissions information for point sources in the Area and for mobile sources in the Area during pre-pandemic periods and from

the years 2020 and 2021 (i.e., during the pandemic). Our conclusion, discussed in the comment response above, is that while the pandemic likely had some impact on emissions in the Area, that impact does not appear to have been the primary driver of decreased ozone concentrations in the Area.

To further support OEPA's demonstration that the improvement in air quality between the year violations occurred and the year attainment was achieved, is due to permanent and enforceable emission reductions and not on favorable meteorology, the state included a classification and regression tree (CART) analysis to demonstrate that the improvement in air quality was not due to unusually favorable meteorology, which was performed by the Lake Michigan Air Directors Consortium (LADCO). The goal of the analysis was to determine the meteorological and air quality conditions associated with ozone episodes, and construct trends for the days identified as sharing similar meteorological conditions in ozone nonattainment areas in the LADCO region. Regression trees were developed for the Cincinnati area ozone data to classify each summer day by its ozone concentration and associated meteorological conditions. By grouping days with similar meteorology, the influence of meteorological variability on the underlying trend in ozone concentrations is partially removed and the remaining trend is presumed to be due to trends in precursor emissions or other non-meteorological influences. The CART analysis showed the resulting trends in ozone concentrations declining over the

period examined, 2005 through 2020, supporting the conclusion that the improvement in air quality was not due to unusually favorable meteorology.

The CART analysis shows that ozone concentrations for all five high-ozone day types have decreased over the last 16 years, demonstrating that on days with similar meteorology, ozone concentrations on high-ozone days at Cincinnati monitors have decreased substantially since 2005. Overall, OEPA concluded that average summer temperatures have remained steady and average ozone concentrations have decreased from 2005 through 2021, providing a strong basis to conclude that reductions in precursors are responsible for the reductions in elevated ozone concentrations in the Area, and that these emission reductions were not solely or primarily driven by a pandemic-related decrease in emissions or unusually favorable meteorology, but rather by the host of permanent and enforceable state and federal measures that have been applied and will continue to apply over time.

Further, we find no fault with Ohio's examination of 2019 emissions within the nonattainment area (i.e., the attainment inventory) for purposes of illustrating the reduction in emissions in the Area over time (from 2014 to 2019). To the extent that commenter is suggesting Ohio also should have provided emission inventories for years 2020 and 2021, we do not agree that information was necessary to evaluate emission trends. The State's selection of one year of emissions during a

design value period indicating nonattainment and one year of emissions during a design value period indicating attainment was sufficient to show that emissions had decreased substantially within the Area during that time period. Moreover, even though the state did not supply full emission inventories for years 2020 and 2021 (which they were not required to do), EPA performed additional analysis of the potential COVID-19 effects on the Area in response to the commenter's suggestion. As discussed in the previous comment responses, that analysis showed that point source precursor emissions of NO<sub>x</sub> and VOC in the Area did not decrease substantially from the pre-pandemic year of 2019 to 2020. Likewise, the Ohio state-wide analysis by OKI concluded that overall traffic conditions in 2021 were decreased by a range of 3 to 7 percent compared to 2019, from June 2021 through January 2022, while truck traffic increased over the same time period. The overall mobile source modeling indicated that an increase in VMT does not necessarily correspond to an increase in emissions, because of the impact of mobile source standards.

We therefore do not agree that it is unreasonable to redesignate the Ohio portion of the Cincinnati area to attainment of the 2015 ozone NAAQS.

*Comment:* The commenter argues that this action affects an Environmental Justice (EJ) Community. Specifically, the commenter points out that Black Americans make up more than 40% of Cincinnati's residents, and that according to the U.S.

Census, Cincinnati has twice the poverty rate of the United States as a whole. The commenter therefore argues that it is particularly incumbent upon EPA to thoroughly consider the monitoring time period of 2017-2019 and not the pandemic years of 2020 and 2021, to ensure that any redesignation to attainment consider the "longstanding excessive burden experienced by Black and low-income communities in southwestern Ohio."

*Response:* EPA sets the NAAQS at a level to protect the public health, with an adequate margin of safety, including the health of at-risk populations, and protect the public welfare from adverse effects. The criteria set forth in 40 CFR 50.19 and appendix U of part 50 to attain the 2015 ozone NAAQS establishes that the 3-year average of the annual fourth-highest daily maximum 8-hour average ozone concentration must be less than or equal to 0.070 ppm, which is true of the Area. While EPA recognizes the importance of assessing impacts of our actions on potentially overburdened communities, we believe that our approval of Ohio's redesignation request for the 2015 ozone NAAQS would not exacerbate existing pollution exposure or burdens for populations in the Cincinnati area.

Even so, Executive Order 12898 (59 FR 7629, February 16, 1994) requires that Federal agencies, to the greatest extent practicable and permitted by law, identify and address disproportionately high and adverse human health or environmental effects of their actions on minority and low-income populations. Additionally, Executive Order 13985 (86 FR

7009, January 25, 2021) directs Federal Government agencies to assess whether, and to what extent, their programs and policies perpetuate systemic barriers to opportunities and benefits for people of color and other underserved groups, and Executive Order 14008 (86 FR 7619, February 1, 2021) directs Federal agencies to develop programs, policies, and activities to address the disproportionate health, environmental, economic, and climate impacts on disadvantaged communities. To identify environmental burdens and susceptible populations in communities in the Area, EPA performed a screening-level analysis using EPA's EJ screening and mapping tool ("EJSCREEN").<sup>9</sup> EPA utilized the EJSCREEN tool to evaluate environmental and demographic indicators at the county level for each county within the Area (Butler, Clermont, Hamilton and Warren). Additional indicators of overall pollution burden include estimates of ambient particulate matter (PM<sub>2.5</sub>) concentration, a score for traffic proximity and volume, percentage of pre-1960 housing units (lead paint indicator), and scores for proximity to Superfund sites, risk management plan (RMP) sites, and hazardous waste facilities. EPA's screening-level analysis indicates that communities in the Area affected by this action score below the national average for the EJSCREEN "Demographic Index", which is the average of an area's percent minority and percent low income populations, i.e., the two demographic indicators explicitly named in Executive Order 12898. As discussed in the EPA's EJ

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<sup>9</sup>See documentation on EPA's Environmental Justice Screening and Mapping Tool at <https://www.epa.gov/ejscreen>, last accessed 5/2/2022.



technical guidance, people of color and low-income populations often experience greater exposure and disease burdens than the general population, which can increase their susceptibility to adverse health effects from environmental stressors.<sup>10</sup>

Additionally, EPA has provided that if any of the EJ indexes for the areas under consideration are at or above the 80th percentile nationally, then further review may be appropriate.<sup>11</sup>

The results indicate that these areas score below the 80th percentile (in comparison to the nation as a whole) in the twelve EJ Indexes established by EPA, which include a combination of environmental and demographic information, with one exception. In Hamilton county, the EJ Index for Risk Management Plan (RMP) Facility Proximity scored at the 81<sup>st</sup> percentile. This EJ index considers the count of RMP (potential chemical accident management plan) facilities within 5 km (or nearest one beyond 5 km), each divided by distance in kilometers.

Considering these results, EPA further considered forthcoming and existing emission reduction measures that may help to mitigate existing pollution issues in the Area. The Area's redesignation to attainment will include the continued application of the Prevention of Significant Deterioration (PSD) permitting requirements including installation of the Best Available Control Technology (BACT), air quality analysis,

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<sup>10</sup> EPA, "Technical Guidance for Assessing Environmental Justice in Regulatory Analysis," section 4 (June 2016).

<sup>11</sup> EPA, "EJSCREEN Technical Documentation," appendix H (September 2019).

additional impacts analysis, and public involvement for new and modified sources. The Federal mobile source and point source emission reduction programs and NO<sub>x</sub> cap and trade programs through CSAPR, identified as the permanent and enforceable regulations which led to the Area's attainment, remain in place and will continue to achieve reductions. Further, Ohio has submitted a maintenance plan that shows continuing reductions in NO<sub>x</sub> and VOC emissions through 2035 and includes contingency measure provisions to address any possible future violation of the NAAQS.

Additionally, Ohio has adopted regulations to address the NO<sub>x</sub> and VOC Reasonably Available Control Technology (RACT) requirements that apply to moderate areas. Despite Cincinnati's current marginal ozone classification, Ohio voluntarily adopted these RACT rules for the Area after planning efforts were underway for moderate RACT requirements for the 2015 ozone standard in Cleveland. The NO<sub>x</sub> RACT Rule 3745-110 of the Ohio Administrative Code (OAC), which became effective March 25, 2022, applies to existing boilers, stationary combustion turbines, stationary internal combustion engines, reheat furnaces, or sources located at a facility that emits or has the potential to emit a total of more than 100 tpy of NO<sub>x</sub> emissions and specifically states applicability to sources located in Butler, Clermont, Hamilton or Warren county.<sup>12</sup> Similarly, VOC

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<sup>12</sup> See <https://epa.ohio.gov/divisions-and-offices/air-pollution-control/regulations/effective-rules/dapc-effective-rules>, last accessed 5/20/2022.

RACT Rule 3745-21 of the OAC, effective March 27, 2022, is applicable to various source categories in Butler, Clermont, Hamilton and Warren counties to facilities that have a total uncontrolled potential to emit for VOC emissions of 100 tpy. OEPA has submitted the VOC RACT rules that cover both Cleveland and Cincinnati for approval into the Ohio SIP and have submitted the NO<sub>x</sub> RACT rules that apply to Cleveland for approval into the Ohio SIP. Hence, they will be implementing NO<sub>x</sub> RACT in both Cleveland and Cincinnati, and NO<sub>x</sub> RACT will be federally enforceable in Cleveland. These rules will be SIP strengthening and go beyond what is required in the Area at the Federal level and are expected to achieve additional emission reductions and contribute to maintenance of the ozone standard in the Area.

EPA acknowledges that ozone problems may not be solved through redesignations, that regional solutions are required, and that coordinated cooperation between stakeholders may lead to improved air quality. As previously noted, OEPA has established a maintenance plan containing contingency measures as a safeguard designed to ensure compliance with the NAAQS going forward. EPA also continues to implement programs addressing regional and interstate transport of NO<sub>x</sub>, such as the Revised CSAPR Update. Finally, EPA encourages the commenter to remain engaged with stakeholders in the effort to protect human health and the environment.

### **III. Final Action.**

In accordance with Ohio's December 21, 2021, request, EPA is redesignating the Cincinnati Ohio-Kentucky nonattainment area from nonattainment to attainment of the 2015 ozone NAAQS. EPA finds that the Area is attaining the 2015 ozone NAAQS and meets the statutory requirements for redesignation under the CAA. EPA is also approving Ohio's maintenance plan, which is designed to ensure that the Area will continue to maintain the ozone NAAQS through 2035. Lastly, EPA is approving the state's 2026 and 2035 NO<sub>x</sub> and VOC motor vehicle emission budgets for the Ohio portion of the Area.

In accordance with 5 U.S.C. 553(d) of the Administrative Procedure Act (APA), EPA finds there is good cause for this action to become effective immediately upon publication. The immediate effective date for this action is authorized under both 5 U.S.C. 553(d) (1) <sup>13</sup>.

Section 553(d) (1) of the APA provides that final rules shall not become effective until 30 days after publication in the *Federal Register* "except . . . a substantive rule which grants or recognizes an exemption or relieves a restriction." The purpose of this provision is to "give affected parties a reasonable time to adjust their behavior before the final rule takes effect." *Omnipoint Corp. v. Fed. Commc'n Comm'n*, 78 F.3d 620, 630 (D.C. Cir. 1996); see also *United States v. Gavrilovic*, 551 F.2d 1099, 1104 (8th Cir. 1977) (quoting legislative history). However, when the agency grants or recognizes an

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<sup>13</sup> See <https://www.govinfo.gov/content/pkg/USCODE-2020-title5/pdf/USCODE-2020-title5-partI-chap5-subchapII-sec553.pdf>, last accessed 3/16/2022.

exemption or relieves a restriction, affected parties do not need a reasonable time to adjust because the effect is not adverse. EPA has determined that this rule relieves a restriction because this rule relieves sources in the area of Nonattainment New Source Review (NNSR) permitting requirements; instead, upon the effective date of this action, sources will be subject to less restrictive PSD permitting requirements. For this reason, EPA finds good cause under 5 U.S.C. 553(d)(1) for this action to become effective on the date of publication of this action.

#### **IV. Statutory and Executive Order Reviews.**

Under the CAA, redesignation of an area to attainment and the accompanying approval of a maintenance plan under section 107(d)(3)(E) are actions that affect the status of a geographical area and do not impose any additional regulatory requirements on sources beyond those imposed by state law. A redesignation to attainment does not in and of itself create any new requirements, but rather results in the applicability of requirements contained in the CAA for areas that have been redesignated to attainment. Moreover, the Administrator is required to approve a SIP submission that complies with the provisions of the CAA and applicable Federal regulations. 42 U.S.C. 7410(k); 40 CFR 52.02(a). Thus, in reviewing SIP submissions, EPA's role is to approve state choices, provided that they meet the criteria of the CAA. Accordingly, this action merely approves state law as meeting Federal requirements

and does not impose additional requirements beyond those imposed by state law. For these reasons, this action::

- Is not a significant regulatory action subject to review by the Office of Management and Budget under Executive Orders 12866 (58 FR 51735, October 4, 1993) and 13563 (76 FR 3821, January 21, 2011);
- Does not impose an information collection burden under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*);
- Is certified as not having a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*);
- Does not contain any unfunded mandate or significantly or uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (Public Law 104-4);
- Does not have federalism implications as specified in Executive Order 13132 (64 FR 43255, August 10, 1999);
- Is not an economically significant regulatory action based on health or safety risks subject to Executive Order 13045 (62 FR 19885, April 23, 1997);
- Is not a significant regulatory action subject to Executive Order 13211 (66 FR 28355, May 22, 2001);
- Is not subject to requirements of Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) because application of those requirements would be inconsistent with the CAA; and

- Does not provide EPA with the discretionary authority to address, as appropriate, disproportionate human health or environmental effects, using practicable and legally permissible methods, under Executive Order 12898 (59 FR 7629, February 16, 1994).

In addition, the SIP is not approved to apply on any Indian reservation land or in any other area where EPA or an Indian tribe has demonstrated that a tribe has jurisdiction. In those areas of Indian country, the rule does not have tribal implications and will not impose substantial direct costs on tribal governments or preempt tribal law as specified by Executive Order 13175 (65 FR 67249, November 9, 2000).

This action is subject to the Congressional Review Act, and EPA will submit a rule report to each House of the Congress and to the Comptroller General of the United States. This action is not a "major rule" as defined by 5 U.S.C. 804(2).

Under section 307(b)(1) of the CAA, petitions for judicial review of this action must be filed in the United States Court of Appeals for the appropriate circuit by **[INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**. Filing a petition for reconsideration by the Administrator of this final rule does not affect the finality of this action for the purposes of judicial review nor does it extend the time within which a petition for judicial review may be filed, and shall not postpone the effectiveness of such rule or action. This action may not be challenged later in proceedings to enforce its

requirements. (See section 307(b)(2).)

**List of Subjects**

*40 CFR Part 52*

Environmental protection, Air pollution control, Incorporation by reference, Intergovernmental relations, Lead, Nitrogen dioxide, Ozone, Reporting and recordkeeping requirements, Volatile organic compounds.

*40 CFR Part 81*

Environmental protection, Air pollution control, National parks, Wilderness areas.

Dated: June 2, 2022.

Debra Shore,  
*Regional Administrator, Region 5.*



For the reasons stated in the preamble, EPA amends 40 CFR parts 52 and 81 as follows:

**PART 52—APPROVAL AND PROMULGATION OF IMPLEMENTATION PLANS**

1. The authority citation for part 52 continues to read as follows:

**Authority:** 42 U.S.C. 7401 *et seq.*

2. In § 52.1870, the table in paragraph (e) is amended under “Summary of Criteria Pollutant Maintenance Plan” by adding an entry for “Ozone (8-Hour, 2015)” before the entry for “PM-10” to read as follows:

**§ 52.1870 Identification of plan.**

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(e) \* \* \*

**EPA--APPROVED OHIO NONREGULATORY AND QUASI-REGULATORY PROVISIONS**

Title	Applicable geographical or non-attainment area	State date	EPA approval	Comments
* * * * *				
Summary of Criteria Pollutant Maintenance Plan				
* * * * *				
Ozone (8-Hour, 2015)	Cincinnati (Butler, Clermont, Hamilton, and Warren Counties)	12/21/2021	[INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER], [INSERT FEDERAL REGISTER CITATION]	EPA is approving the following elements: a determination that the Cincinnati area has attained the 2015 8-Hour ozone standard, a maintenance plan for the 2015 8-Hour ozone NAAQS, 2026 and 2035 VOC and NO <sub>x</sub> motor vehicle emission budgets for the Cincinnati area.
* * * * *				

\* \* \* \* \*

**PART 81 - DESIGNATION OF AREAS FOR AIR QUALITY PLANNING PURPOSES**

3. The authority citation for part 81 continues to read as follows:

**Authority:** 42 U.S.C. 7401 *et seq.*

4. Section 81.336 is amended in the table entitled "Ohio-2015 8-Hour Ozone NAAQS [Primary and Secondary]" by revising the entry for "Cincinnati, OH-KY" to read as follows:

**§81.336 Ohio.**

\* \* \* \* \*

**OHIO-2015 8-HOUR OZONE NAAQS**  
[Primary and Secondary]

Designated area <sup>1</sup>	Designation		Classification	
	Date <sup>2</sup>	Type	Date <sup>2</sup>	Type
* * * * *	* * *			
Cincinnati, OH-KY	[INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER]	Attainment		Marginal.
Butler County.				
Clermont County.				
Hamilton County.				
Warren County.				
* * * * *	* * *			

<sup>1</sup>Includes any Indian country in each county or area, unless otherwise specified. EPA is not determining the boundaries of any area of Indian country in this table, including any area of Indian country located in the larger designation area. The inclusion of any Indian country in the designation area is not a determination that the state has regulatory authority under the Clean Air Act for such Indian country.

<sup>2</sup>This date is August 3, 2018, unless otherwise noted.

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